

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

<b>THERMO DYNAMIC SOLUTIONS LLC,</b>	
Plaintiff,	CASE NO. 2:17-cv-46
v.	<b>PATENT CASE</b>
<b>ECOBEE, LTD.,</b>	<b>JURY TRIAL DEMANDED</b>
Defendant.	

**ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT  
AGAINST ECOBEE, LTD.**

Plaintiff Thermo Dynamic Solutions LLC files this Original Complaint for Patent Infringement against Ecobee, Ltd., pursuant to Rule 15(a)(1)(B), Fed.R.Civ.P., and would respectfully show the Court as follows:

**I. THE PARTIES**

1. Plaintiff Thermo Dynamic Solutions LLC (“TDS” or “Plaintiff”) is a Texas limited liability company with its principal place of business in the Eastern District of Texas at 5068 W. Plano Pkwy, Suite 300, Plano, Texas 75093.

2. On information and belief, Defendant Ecobee, Ltd. (“Defendant”), is a limited company organized and existing under the laws of the State of Nevada, with its place of business at 250 University Avenue, Suite 400, Toronto, ON M5H 3E5.

**II. JURISDICTION AND VENUE**

3. This action arises under the patent laws of the United States, Title 35 of the United States Code. This Court has subject matter jurisdiction of such action under 28 U.S.C. §§ 1331 and 1338(a).

4. On information and belief, Defendant is subject to this Court's specific and general personal jurisdiction, pursuant to due process and the Texas Long Arm Statute, due at least to its substantial business in this forum, including at least a portion of the infringements alleged herein.

5. Without limitation, on information and belief, within this state, Defendant has used the patented inventions thereby committing, and continuing to commit, acts of patent infringement alleged herein. In addition, on information and belief, Defendant has derived substantial revenues from its infringing acts occurring within the State of Texas and this District. Further, on information and belief, Defendant is subject to the Court's general jurisdiction, including from regularly doing or soliciting business, engaging in other persistent courses of conduct, and deriving substantial revenue from goods and services provided to persons or entities in the State of Texas and in this District. Further, on information and belief, Defendant is subject to the Court's personal jurisdiction at least due to its sale of products and/or services within the State of Texas and within this District. Defendant has committed such purposeful acts and/or transactions in the State of Texas and in this District, such that it reasonably should know and expect that it could be haled into this Court because of such activity.

6. Venue is proper in this district under 28 U.S.C. §§ 1391(b), 1391(c) and 1400(b). On information and belief, Defendant has sufficient contacts with the State of Texas and this District such that this Court is a fair and reasonable venue for the litigation of this action. On information and belief, from and within this District Defendant has committed at least a portion of the infringements at issue in this case. In addition, on information and belief, Defendant has derived substantial revenues from its infringing acts and is subject to personal jurisdiction in this

District for at least the reasons identified above, including due at least to its sale of products and/or services within the State of Texas and from this District.

7. For these reasons, personal jurisdiction exists and venue is proper in this Court under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b).

**III. COUNT I**  
**(PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,145,751)**

8. Plaintiff incorporates the above paragraphs herein by reference.

9. On November 14, 2000, United States Patent No. 6,145,751 (“the ‘751 Patent”) was duly and legally issued by the United States Patent and Trademark Office. The ‘751 Patent is titled “Method and Apparatus for Determining a Thermal Setpoint in a HVAC System.” The application leading to the ‘751 Patent was filed on January 12, 1999. A true and correct copy of the ‘751 Patent is attached hereto as Exhibit A and incorporated herein by reference.

10. TDS is the assignee of all right, title and interest in the ‘751 patent, including all rights to enforce and prosecute actions for infringement and to collect damages for all relevant times against infringers of the ‘751 Patent. Accordingly, Plaintiff possesses the exclusive right and standing to prosecute the present action for infringement of the ‘751 Patent by Defendant.

11. The invention in the ‘751 Patent relates generally to the field of HVAC (heating, ventilation, and air-conditioning) systems. (Ex. A at col. 1:5-6). In particular, the invention relates to improved systems and methods for updating a thermal setpoint in HVAC systems. (*Id.* at col. 1:7-8). Prior to filing the initial application in January 1999, the inventors recognized that there were problems with the way that HVAC systems provided thermal comfort to building occupants. The HVAC systems did not solicit feedback from building occupants to set the thermal setpoint. (*Id.* at col. 1:16-21). Typically, a single thermostat or temperature sensor is the only feedback that an HVAC system receives in setting the temperature in a building. (*Id.* at 19-

22). In addition to having only one source for feedback, the thermostat or temperature sensor may be influenced by a micro-climate around it and therefore it may not always accurately reflect the temperature in a building. (*Id.* at col. 1:22-24). In these situations, the location of the thermostat is extremely important in correlating the thermostat-sensed temperature with the actual room air temperature. (*Id.* at col. 1:24-27).

12. With a single thermostat or temperature sensor, building occupants can react to their perception of the temperature by changing the thermostat setpoint at the thermostat. (*Id.* at col. 1:38-39). However, it may not be practical or possible for occupants to change the thermostat setpoint manually. (*Id.* at col. 1:39-43). For example, the thermostat may be restricted to certain users or otherwise inaccessible to occupants. (*Id.* at col. 1:43-46). The result is that the thermostat is not provided with any feedback from building occupants. (*Id.* at col. 1:45-46). The inventors recognized that it would be extremely beneficial to allow individual occupants to provide direct feedback to a building control system providing thermal comfort. (*Id.* at col. 2:7-9). The inventors thereby created systems and methods that used existing communications networks, such as the Internet or intranet, to carry feedback information to a HVAC controller to improve how the system determined a thermostat setpoint. (*Id.* at col. 1:53-67; col. 2:9-13).

13. **Direct Infringement.** Upon information and belief, Defendant has been and now is directly infringing at least claim 9 of the '751 patent in the State of Texas, in this District, and elsewhere in the United States, by actions comprising making, using, selling, and/or offering for sale a control system for adjusting a thermostat setpoint for controlling the temperature of a space controlled by an HVAC system using occupant feedback, including without limitation

Defendant's ECOBEE3 thermostat and system ("Accused Instrumentality"). *See, e.g.,*

<https://www.ecobee.com/ecobee3/>.

14. On information and belief, the Accused Instrumentality includes a software interface for entering occupant feedback. Users of the Accused Instrumentality may access the software interface by way of a mobile application. For example:



*See, e.g.,* <https://www.ecobee.com/ecobee3/>.

#### SMARTER COMFORT

A complete comfort system for your home.

**Follow Me** uses room sensors to know which room you're in and automatically adjust to your preferred temperature.

**Smart Home/Away** ensures you're comfortable while you're at home and saving money when you're not.

*See, e.g., id.*

15. On information and belief, the Accused Instrumentality includes a means for transmitting the occupant feedback. The user (occupant feed-back) communicates to the unit via

wi-fi or wired internet connection from either the mobile app or a web portal through a web browser. *See, e.g.*, <https://www.ecobee.com/ecobee3/>. For example, the Accused Instrumentality contains a wi-fi chip for wirelessly connecting it to the Internet (*e.g.*, an Atheros AR series transceiver which is a wi-fi, wireless connectivity device):



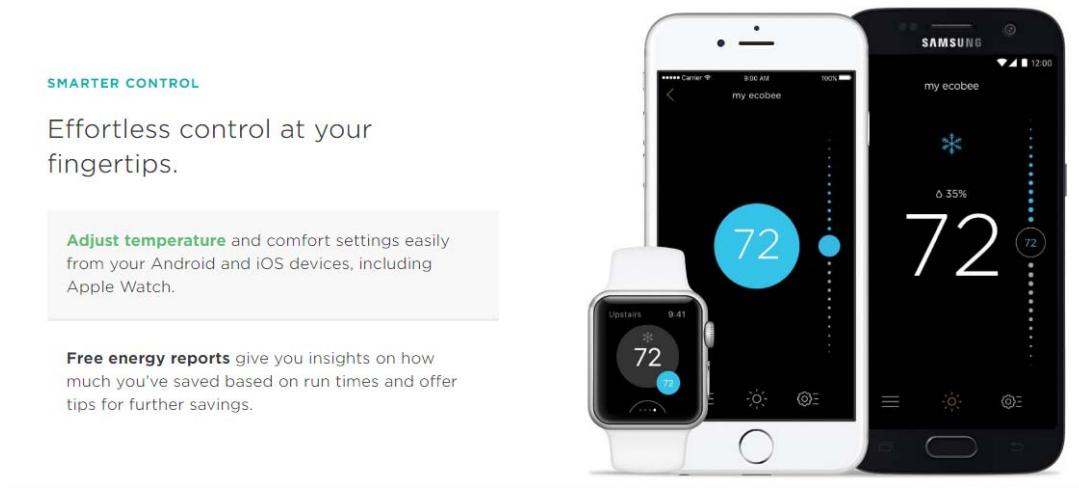
16. On information and belief, the Accused Instrumentality has a CPU for receiving feedback information from the Internet. For example, the Accused Instrumentality has a NXP / Freescale MCIMX283DVM4B processor:



The Accused Instrumentality uses a CPU to receive feedback information from the transmitting means.

17. On information and belief, the Accused Instrumentality calculates an adjusted thermostat setpoint using a previous setpoint and the occupant feedback information. *See, e.g.*, <https://www.ecobee.com/ecobee3/>.

18. On information and belief, the Accused Instrumentality also infringes claim 10 of the '751 patent because the Accused Instrumentality has a transmitting means that includes an Internet and an intranet network. For example:



See, e.g., <https://www.ecobee.com/ecobee3/>.

19. Plaintiff has been damaged as a result of Defendant's infringing conduct. Defendant is thus liable to Plaintiff for damages in an amount that adequately compensates Plaintiff for such Defendant's infringement of the '751 patent, *i.e.*, in an amount that by law cannot be less than would constitute a reasonable royalty for the use of the patented technology, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

20. On information and belief, Defendant will continue its infringement of one or more claims of the '751 patent unless enjoined by the Court. Defendant's infringing conduct thus causes Plaintiff irreparable harm and will continue to cause such harm without the issuance of an injunction.

21. On information and belief, Defendant has had at least constructive notice of the '751 patent by operation of law, and there are no marking requirements that have not been complied with.

**VI. JURY DEMAND**

Plaintiff, under Rule 38 of the Federal Rules of Civil Procedure, requests a trial by jury of any issues so triable by right.

**VII. PRAYER FOR RELIEF**

WHEREFORE, Plaintiff respectfully requests that the Court find in its favor and against Defendant, and that the Court grant Plaintiff the following relief:

- a. Judgment that one or more claims of United States Patent No. 6,145,751 have been infringed, either literally and/or under the doctrine of equivalents, by Defendant;
- b. Judgment that Defendant account for and pay to Plaintiff all damages to and costs incurred by Plaintiff because of Defendant's infringing activities and other conduct complained of herein;
- c. That Plaintiff be granted pre-judgment and post-judgment interest on the damages caused by Defendant's infringing activities and other conduct complained of herein;
- d. That Defendant be permanently enjoined from any further activity or conduct that infringes one or more claims of United States Patent No. 6,145,751; and
- e. That Plaintiff be granted such other and further relief as the Court may deem just and proper under the circumstances.

Dated: January 13, 2017

Respectfully submitted,

/s/ David R. Bennett

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